

“Delacoste”); claim 5 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Mills in view of Delacoste and United States Patent Number 5,516,107 to Okumoto et al. (hereinafter “Okumoto”); and claim 8 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Mills in view of Delacoste and United States Patent Number 5,091,265 to Kennedy et al. (hereinafter “Kennedy”).

Applicant hereby cancels claim 2 and amends independent claim 1 and dependent claims 3-9, 11, 24, and 26-27. Claim 1 is amended to delete certain subject matter and to incorporate the subject matter of now cancelled claim 2. Specifically, claim 1 is amended to delete an outer skin formed from a plurality of cut pieces and to recite a syntactic material that comprises a plurality of resilient spherical bodies dispersed in a matrix material. Claims 3-5 are amended to make the language consistent with amended independent claim 1, from which claims 3-5 depend. Claims 6, 11, and 26-27 are amended to depend directly from independent claim 1. Claims 7-9 are amended to delete reference numerals. Claim 24 is amended to incorporate the now deleted subject matter of claim 1. Specifically, claim 24 is amended to recite an outer skin formed from a plurality of cut pieces. No new matter has been entered thereby.

Claims 1, 3-12, and 24-27 are currently pending and presented for reconsideration. In view of the above amendments and following remarks, reconsideration and withdrawal of all grounds of rejection are respectfully requested.

1. Claims 1-4, 6-7, 9-12, and 24-27 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Mills in view of Delacoste. Claim 2 is cancelled, thereby rendering the rejection moot with respect to that claim. Applicant respectfully traverses the rejection as applied to the other claims, as amended.

Briefly, Mills describes a method of providing decorative and/or informative markings 15 on the outer covering 12, 13 of a sports ball 10. The sports ball 10 has an inflated or inflatable core 11, an outer covering 12, 13 enclosing the core 11, and a transparent cover layer 14 applied to the outer surface of the outer covering 12, 13. Decorative and/or informative markings 15 are provided at the interface between the internal face of the transparent cover layer 14 and the outer surface of the outer covering 12, 13. See generally page 3, lines 10-17, of Mills.

Delacoste describes a cast aluminum ball mold and a method of making a thermoplastic ball in the mold. Specifically, Delacoste describes manufacturing a ball by introducing a thermoplastic material into two semi-spherical mold halves, thereby producing a single molded piece ball. See generally column 6, lines 23-42, of Delacoste.

To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). MPEP § 706.02(j).

Applicant respectfully submits that a prima facie case of obviousness has not been established with respect to independent claim 1, as amended, for at least two reasons. First, neither Mills nor Delacoste, alone or in proper combination, teach or suggest all the limitations of independent claim 1, as amended. Second, no motivation to combine is present in the cited

references, and the Office Action fails to state with specificity any motivation to combine the cited references.

First, Applicant's amended independent claim 1 recites a syntactic material comprising ***"a plurality of resilient spherical bodies dispersed in a matrix material."*** In distinct contrast, neither Mills nor Delacoste, alone or in proper combination, teach or suggest such a composition.

With respect to Mills, the reference is silent with respect to, and therefore fails to disclose, a syntactic material comprising ***"a plurality of resilient spherical bodies dispersed in a matrix material."*** Neither is there anything in Mills, in its entirety, to suggest or motivate one skilled in the art to arrive at Applicant's claimed invention as recited in amended independent claim 1.

With respect to Delacoste, Applicant respectfully submits that the disclosure of Delacoste fails to cure the deficiencies of Mills with respect to amended independent claim 1. Delacoste reveals the use of rigid glass micro-balls to reduce, or to prevent, in the first instance, ball deformation. See, for example, column 3, line 45, to column 4, line 5. In distinct contrast, Applicant's amended independent claim 1 recites a syntactic material comprising ***"a plurality of resilient spherical bodies dispersed in a matrix material."*** Applicant's resilient spherical bodies permit, in the first instance, ball deformation. When the ball is struck, the resilient spherical bodies permit the ball to be compressed. Following this initial compression of the ball, the resilient spherical bodies return the ball to its original spherical form.

Applicant, therefore, submits that neither Mills nor Delacoste, alone or in proper combination, provides the teaching, suggestion, or motivation for one skilled in the art to arrive at the syntactic material as claimed in amended independent claim 1.

Second, it is well settled that, to combine references, there must be some suggestion or motivation to do so in the references themselves or in the knowledge generally available to one of ordinary skill in the art that lies outside the disclosure of the patent application. See, for example, MPEP § 2142. Absent this motivation, a rejection under 35 U.S.C. § 103(a) should not be maintained. As stated in MPEP § 2143.01, “[t]he mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art suggests the desirability of the combination.” In re Mills, 916 F.2d 680, 16 USPQ 1430 (Fed. Cir. 1990). As that section further states, “although a prior art device ‘may be capable of being modified to run the way the apparatus is claimed, there must be a suggestion or motivation in the reference to do so.’” In re Mills, 916 F.2d at 682.

Mills discloses a transparent cover layer 14 that, due to its composition and physical properties, provides for a sports ball 10 which is flexible, has a good elastic memory, and avoids an increase in hardness at low temperatures. See generally page 6, lines 19-22, of Mills. Delacoste, as mentioned hereinabove, discloses the use of glass micro-balls to reduce, or to prevent, in the first instance, ball deformation. Applicant, therefore, respectfully submits that it would be improper to combine the teachings of Mills with the teachings of Delacoste. It would not have been obvious for one of ordinary skill in the art to add the micro-balls of Delacoste to the transparent cover layer 14 of Mills. To do so would render the transparent cover layer 14 of Mills unsatisfactory for its intended purpose, *i.e.*, to provide for a sports ball 10 which is flexible, has a good elastic memory, and avoids an increase in hardness at low temperatures.

Applicant, therefore, respectfully submits that Mills and Delacoste lack the necessary suggestion or motivation to combine the reference teachings or to modify the references

themselves. Applicant further respectfully submits that the disclosures of Mills and Delacoste would not have been combined or modified by a person of ordinary skill in the art. Accordingly, Applicant respectfully submits that amended independent claim 1 is not obvious in view of the conflicting teachings of Mills and Delacoste.

Further, as stated in MPEP § 2142, “[t]he examiner bears the initial burden of factually supporting any prima facie conclusion of obviousness. If the examiner does not produce a prima facie case, the applicant is under no obligation to submit evidence of nonobviousness.” As further stated in that section, “[w]hen the motivation to combine the teachings of the references is not immediately apparent, it is the duty of the examiner to explain why the combination of the teachings is proper.” Ex parte Skinner, 2 USPQ2d 1788 (Bd. Pat. App. & Inter. 1986). In particular, “the Board must identify *specifically* the principle, known to one of ordinary skill, that suggests the claimed combination.” In Re Sang Su Lee, 277 F.3d 1338, 1343 (Fed. Cir. 2002) (quoting In Re Rouffet, 149 F.3d 1350, 1359, 47 USPQ2d 1453, 1459 (Fed. Cir. 1998)) (emphasis added). “The examiner can satisfy the burden of showing obviousness of the combination ‘only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references.’” In Re Sang Su Lee, 277 F.3d 1338, 1343 (Fed. Cir. 2002) (quoting In Re Fritch, 972 F.2d 1260, 1265, 23 USPQ2d 1780, 1783 (Fed. Cir. 1992)).

The Applicant respectfully submits that the combination proposed in the Office Action is without basis, because the Office Action does not provide with specificity any facts or arguments to show that the nature of the problem or the knowledge of one of ordinary skill in the art would suggest the combination of Mills with Delacoste (and further with any other reference of record).

For these reasons, Applicant respectfully submits that independent claim 1, as amended, is allowable over Mills in view of Delacoste. Because claims 3-4, 6-7, 9-12, and 24-27 depend, either directly or indirectly, from amended independent claim 1, Applicant respectfully submits that these claims are allowable as well. Applicant respectfully requests reconsideration and withdrawal of the rejection of claims 1, 3-4, 6-7, 9-12, and 24-27 under 35 U.S.C. § 103(a) as being unpatentable over Mills in view of Delacoste.

2. Claim 5 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Mills in view of Delacoste and Okumoto. Applicant respectfully traverses this rejection as applied to the claim, as amended.

Okumoto describes a method of producing a wood type golf club head that includes integrally molding and curing an outer shell portion 2 of the head main body 1 having a hollow portion 6 therein. Further, weights W are placed in recesses 8 formed on at least one of the toe, back, and heel sides of the outer shell portion 2. The hollow portion 6 is packed with a core member 7, keeping the weights W in place. See generally column 2, lines 6-15, of Okumoto.

Applicant respectfully submits that the disclosure of Okumoto fails to cure the deficiencies of Mills and Delacoste with respect to amended independent claim 1, as described hereinabove in paragraph 1. Specifically, Okumoto first fails to teach, suggest, or motivate one skilled in the art to contemplate a syntactic material comprising ***“a plurality of resilient spherical bodies dispersed in a matrix material.”***

Applicant, therefore, submits that neither Mills nor Delacoste nor Okumoto, alone or in proper combination, provides the teaching, suggestion, or motivation for one skilled in the art to arrive at the syntactic material as claimed in amended independent claim 1.

Further, Applicant respectfully submits that nothing in the teachings of Mills, Delacoste, or Okumoto would suggest or motivate one skilled in the art to combine the teachings of Okumoto to modify what is taught in Mills and Delacoste. Okumoto discloses a method of producing a wood type golf club. Specifically, a core member 7, made of a foamable material, is packed into a hollow portion 6 of an outer shell portion 2 of a wood type golf club. The foamable material is then heated to foam and fix weights W to the inner surface of the outer shell portion 2. When cooled to room temperature, the foamable material, which may be a syntactic foam, is rigid enough to hold the weights W in place as the golf club is swung by a user. See generally column 4, lines 32-45, of Okumoto. In distinct contrast, Mills and Delacoste, as explained hereinabove in paragraph 1, disclose methods of producing a sports ball.

Applicant, therefore, respectfully submits that Mills, Delacoste, and Okumoto lack the necessary suggestion or motivation to combine the reference teachings or to modify the references themselves. Applicant further respectfully submits that the disclosures of Mills, Delacoste, and Okumoto would not have been combined or modified by a person of ordinary skill in the art.

Moreover, Applicant respectfully submits that the combination proposed in the Office Action is without basis, because the Office Action does not provide with specificity any facts or arguments to show that the nature of the problem or the knowledge of one of ordinary skill in the art would suggest the combination of Mills with Delacoste and Okumoto.

For at least these reasons, Applicant respectfully submits that dependent claim 5, which depends indirectly from amended independent claim 1, is allowable over Mills in view of

Delacoste and Okumoto. Applicant respectfully requests reconsideration and withdrawal of the rejection of claim 5 under 35 U.S.C. § 103(a) based on these references.

3. Claim 8 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Mills in view of Delacoste and Kennedy. Applicant respectfully traverses this rejection as applied to the claim, as amended.

Kennedy describes a coating composition for game balls. The coating includes a film forming binder comprised of a linear saturated polyester polyol resin having an average equivalent weight of about 900 to about 1500, combined with an aliphatic polyisocyanate resin cross-linking agent, a fluorescent pigment which is present in the ratio of about 85-90 parts by weight per 100 parts by weight of the film forming binder (and/or about 80 to about 110 parts by weight per 100 parts by weight of the polyester polyol resin), at least one compatible solvent, a texturizing agent and, in some instances, a flow control or leveling agent. See column 2, lines 37-52, of Kennedy.

Applicant respectfully submits that the disclosure of Kennedy fails to cure the deficiencies of Mills and Delacoste with respect to amended independent claim 1, as described hereinabove in paragraph 1. Specifically, Kennedy fails to teach, suggest, or motivate one skilled in the art to contemplate a syntactic material comprising ***“a plurality of resilient spherical bodies dispersed in a matrix material.”***

Applicant, therefore, submits that neither Mills nor Delacoste nor Kennedy, alone or in proper combination, provides the teaching, suggestion, or motivation for one skilled in the art to arrive at the syntactic material as claimed in amended independent claim 1.

Moreover, Applicant respectfully submits that the combination proposed in the Office Action is without basis, because the Office Action does not provide with specificity any facts or arguments to show that the nature of the problem or the knowledge of one of ordinary skill in the art would suggest the combination of Mills with Delacoste and Kennedy.

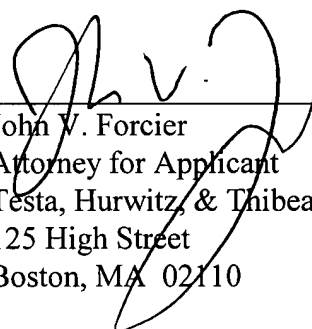
For at least these reasons, Applicant respectfully submits that dependent claim 8, which depends indirectly from amended independent claim 1, is allowable over Mills in view of Delacoste and Kennedy. Applicant respectfully requests reconsideration and withdrawal of the rejection of claim 8 under 35 U.S.C. § 103(a) based on these references.

CONCLUSION

In view of the foregoing, Applicant respectfully requests reconsideration, withdrawal of all grounds of rejection, and allowance of claims 1, 3-12, and 24-27 in due course. The Examiner is invited to contact Applicant's undersigned representative by telephone at the number listed below to discuss any outstanding issues.

Respectfully submitted,

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MARKED UP VERSION OF CLAIMS SHOWING AMENDMENTS

1. (Thrice amended) A ball comprising an outer skin, the outer skin ~~being formed from a plurality of cut pieces and~~ including a first layer which includes a syntactic material that comprises a plurality of resilient spherical bodies dispersed in a matrix material.
3. (Amended) A ball according to claim 1 wherein the ~~syntactic material comprises a plurality of~~ spherical bodies comprise microspheres.
4. (Amended) A ball according to claim 31 wherein the ~~syntactic material comprises a plurality of~~ spherical bodies comprise polymeric hollow microspheres.
5. (Amended) A ball according to claim 31 wherein the ~~syntactic material comprises a plurality of~~ spherical bodies comprise acrylonitrile copolymer microspheres.
6. (Twice amended) A ball according to claim 21 wherein the matrix material is selected from the group consisting of polyurethane, polyurethane foam, polyvinyl chloride, and latex.
7. (Amended) A ball according to claim 1 in which the outer skin further comprises a second layer ~~(26)~~ adjacent the first layer.
8. (Amended) A ball according to claim 7 wherein the second layer ~~(26)~~ comprises an aliphatic material.
9. (Amended) A ball according to claim 7 further comprising a third layer ~~(28)~~ adjacent the first layer.
11. (Thrice amended) A ball according to claim 21 wherein the matrix material is an adhesive.
24. (Amended) A ball according to claim 1, wherein the outer skin is formed from a plurality of cut pieces and the plurality of cut pieces are joined together.
26. (Amended) A ball according to claim 21, wherein the spherical bodies are not more than 20% by weight of the matrix material.
27. (Amended) A ball according to claim 21, wherein the spherical bodies are not less than 1% by weight of the matrix material.